

Review of: "A VAR Framework of Exchange Rates, Interest Rates, and Inflation Through COVID-19 in Turkey: Empirical Evidence From Linear Cointegration and Causality Analysis"

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Potential competing interests: No potential competing interests to declare.

Comments on Turkey VAR paper

It is probably wise to ignore the Covid years altogether, but why use "Covid" in your title when Covid hit the world and Turkey in March of 2020 and your data only goes to July 2020? Covid years were 2020, but also 2021, 2022...

International travel was still restricted in many places in 2022.

Should you just focus on the more stable period, pre-Covid?

You write, "However, traditional unit roots are not equipped to account for structural breaks[14], while interest rate and exchange rate are subjected to constant fluctuations. Therefore, we use a vector autoregressive (VAR) decomposition framework..."

This logic does not follow. If you have a break in your series, this does not mean "therefore" you should use VAR, or Johansen, or ARDL...it means since you likely have breaks, you cannot trust the unit root tests, nor the Johansen tests, nor the results of the ARDL... Another reason to use a sample pre-Covid only.

"To further establish the stability at first difference, we ran the turning point analysis." I am not sure what this means.

You write, "The Johansen cointegration test results in Table 5 indicate there is at least one cointegrating equation significant at the 5% critical level between inflation and exchange rates and interest rates." Yes, but the rest of the results in that table (surprisingly) say even more than that. They suggest you have at least one vector...but also, they suggest there is NO more than one CI vector.

Since

$r \leq 1$ $r \geq 2$ 37.9471 47.8561 $r \leq 1$ $r \geq 2$ 17.5300 27.5843

Since you only seem to have a single vector, *therefore* it is valid to proceed with ARDL... Note that you could also show us what the LR CI vector from the Johansen estimation was. It would be interesting to see how close it was to your ARDL LR... If they are similar, then you would have pretty robust results... (Though that might not be the case. Your sample is pretty large, since monthly data is used...but still a bit small (200 or so). And as you state yourself, there are likely breaks in the series (and/or CI relationship.)

I would like to see what critical values were used for the Johansen test... small sample size (non-asymptotic) values are automatically used in most software, but it would still be good to tell the reader explicitly.

In interpreting the effect of interest rates on inflation, you write:

“A 1% increase in LNTIBOR will result in a 14.39% increase in LNCPI and vice-versa.”

This is because the coefficient in LNTIBOR is 0.1439 in Table 6,

But LNCPI is also in the table with a COEFF of 0.2123... Since LNCPI is the left-hand side variable, usually we normalize the right-hand side variables on the left-hand side coefficient (LNCPI; so this coefficient should be “1”). Make sure you are interpreting the coefficient correctly.

Later in the Granger causality section, you say,

“This affirms our ARDL analysis that LNCPI has a significant impact on the Turkish Central Bank overnight interest rates but not the reverse. However, LNCPI Granger causes all the variables, which signifies inherent causation among the series. “

But if, indeed, you only have a single CI vector (which is the only reason why you would use ARDL), and CPI is on the left-hand side, how can CPI cause “all the variables”?

I suspect that, despite what your Johansen tests say, there is more than one CI vector and feedback in this system, which means you have endogeneity...and should instead construct a VAR (or SVAR) and run IRF, etc., rather than trying to interpret flawed LR CI vectors...

I appreciate the hard work done here and careful attention to detail. But I think the system is more complicated than the author makes it out to be...and likely subject to break. So, I don't think these results will be able to help policymakers in Turkey much. But I encourage the author to keep working and learning more.